Lambda Expressions and Capture Exercises

Copyright © James Raynard 2021

Lambda capture

- What is meant by "variable capture" for a lambda expression?
- What syntax is used for variable capture?
- How is variable capture implemented?

Copyright © James Raynard 2021

Variable capture example

- Write a program which creates a vector and calls find_if() to search for an element with a given property
- For the predicate function, use a lambda expression with hard-coded data
- Rewrite your program to use a local variable which is captured by the lambda expression
- Write an equivalent program which uses a functor instead of a lambda expression

Copyright © James Raynard 2021

Mutable lambda

- Add another captured variable to your lambda expression which counts the number of times the predicate is called
- Why does the following not produce the desired results?

```
int n{5}, idx{0};
auto res2 = find_if(words.begin(), words.end(),
            [n, idx] (const string& str) { ++idx; return str.size() > n; }
 );
```

Copyright © James Raynard 2021